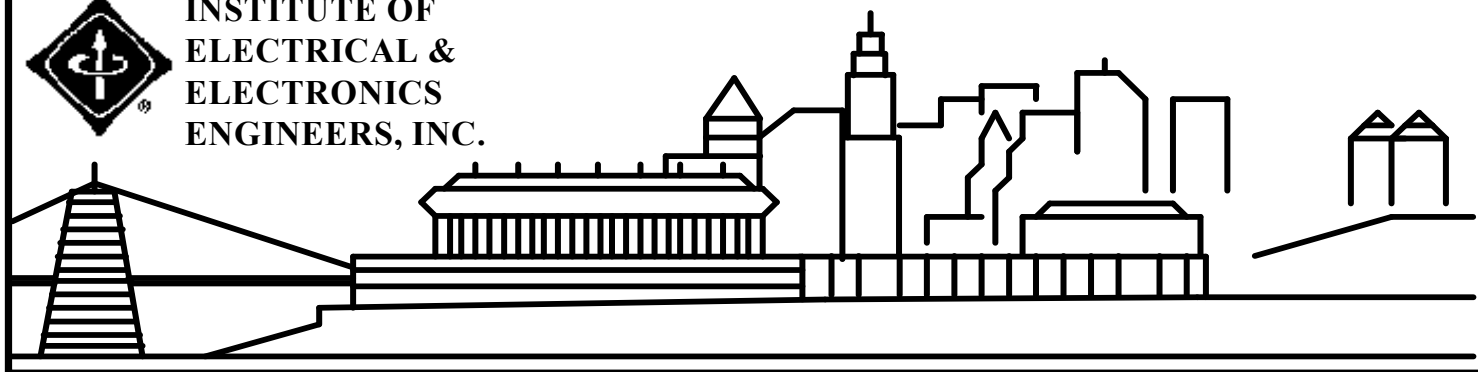




INSTITUTE OF
ELECTRICAL &
ELECTRONICS
ENGINEERS, INC.



OCTOBER 1998

IEEE CINCINNATI SECTION NEWSLETTER

OCTOBER MEETING

TOUR OF O'GARA- HESS & EISENHARDT ARMORING COMPANY

DATE : Thursday, October 22, 1998

TIME : 6:30 PM

PLACE : O'Gara-Hess & Eisenhardt Armoring Company
9113 Le Saint Drive
Fairfield, Ohio 45014

DIRECTIONS : Turn north off I-275 @ Tri-County Mall on to Rt. 747 North (Princeton Pike). Continue North on Rt. 747 past Crescentville Rd. to Mulhauser Rd. Turn left on to Mulhauser Rd. and continue west to Le Saint Drive. Turn right on to Le Saint Drive. Continue North on Le Saint Drive (Approximately 1/4 mile) to O'Gara-Hess & Eisenhardt, which will be on the left side of the road. Parking in their lot and on street.

THE TOUR: The tour will consist of viewing their manufacturing facilities and a look at new developments. You will see how various levels of protection are applied to vehicles for the needs of their customers. Also you will be shown how military vehicles such as the "Hummer", are armored to save lives as well as how vehicles are designed for protection against attacks from terrorists.

ABOUT O'GARA-HESS & EISENHARDT ARMORING COMPANY: O'Gara-Hess & Eisenhardt Armoring Company has been designing and manufacturing armored vehicles for over 50 years. Founded in 1876, the Sayers & Scovill Company built horse drawn carriages and ambulances. By 1942, Sayers & Scovill had become the Hess & Eisenhardt Company. It continued to produce high quality custom vehicles. In 1948, the Secret Service commissioned the first armored presidential limousine, a 1949 Lincoln "Cosmopolitan", for Harry S. Truman. This was the first armored vehicle developed solely for use by the President of the United States. Since then, O'Gara-Hess & Eisenhardt has designed and produced armored security vehicles for every U.S. President. In 1982 the O'Gara family acquired the Hess & Eisenhardt Company and began to focus exclusively on armored vehicle manufacturing and marketing. Due to rapid expansion, a new facility was opened in 1987 in Fairfield, Ohio providing more than 100,000 square feet solely for the production of armored vehicles.

To better serve their international clients, O'Gara-Hess & Eisenhardt operates manufacturing facilities in Mexico, Brazil, Russia, France, Italy and the Philippines.

Some O'Gara-Hess & Eisenhardt achievements:

- 1890- Built first horse drawn ambulance
 - 1948- Built first Presidential armored limousine
 - 1950 Built first line of commercial limousines for Cadillac and Lincoln
 - 1978 Built production Eldorado convertibles for Cadillac
 - 1993 Prototyped and began production of the Up-Armored HMMWV for U.S. Army
 - 1998 Shipped 1000th armored HMMWV for the U.S. Army
-

CHAIR'S MESSAGE

by Randy Holt, Section Chair

Thanks to Dick Reiman, Martin Littmann, and Ray Anderson for their presentation on the history of computers at our September technical meeting! We had a small gathering, considering the amount of work these three did to prepare for the presentation, but it was appreciated by all.

I'm nearing the end of my time as your section chair just one more "message" from me in our next newsletter! Your Executive Committee has put together what I feel is an excellent team for the next two years, and I encourage you to support them in their efforts.

One of my disappointments over the past two years is that I haven't been able to get more of you active in the Cincinnati Section. We have about one thousand members, and we're lucky to get twenty-five out to our technical meetings. I have asked for your help and suggestions in my previous messages and have received only a few responses. I know that all of us are busy with a number of things, but it's frustrating for us and our technical presenters when we put a lot of effort into a program and the audience is so small. I'm hoping that many of you will step up and volunteer to be part of the section; you know that your leaders (like me!) are not exactly young, and we worry about the health of the section when we retire. We don't ask for much of your time, only a few hours a month. Please consider becoming more active in IEEE. As usual, if you have any suggestions, I would be glad to hear from you.

Our tour this month should be a good one. Several of our retired members have taken this tour and were impressed with what they saw and learned. I would sure like to see you there!

A MESSAGE FROM YOUR PACE CHAIRMAN

by Bill Lohner, PACE Chairman

"A Network of Professional Activities for Engineers"

At our last PACE Committee meeting on September 22nd Jim Everly, who is on the Region 2 IEEE Precollege Education Committee, discussed some of the presentations given at the PACE meeting he attended over Labor Day weekend. Jim brought back some information from IEEE sections that have successful programs encouraging students to continue technical studies after leaving middle school and high school. He obtained a slide program from the IEEE titled "What Is An Engineer?". This program was developed for IEEE members who are called by school officials or IEEE volunteers to participate in "Career Day" or other special programs to describe engineering as a profession and outline educational requirements for practicing engineers in industry.

To assist IEEE members in responding to this challenge, a "shell" presentation has been developed. In addition to capturing the attention of the audience, the "shell" is intended to provide the following:

- A framework for the first 20 to 30 minutes of your talk.
- A series of slides and a starting point from which to speak.
- A consistent message to audiences across the nation.

Since the shell is intended to be generic, it is your challenge and responsibility to add your insight, your company specific stories, your personality and perhaps some of your own slides to the presentation.

Our committee has the speakers guide to this program which includes tips on presentation, characteristics of different grade level students and what questions to expect from the students. We will be glad to send you a copy of the "What Is An Engineer?" program if you are interested. We will do our best to give you a contact in your local school district if you want to participate in this program.

In addition to our Committee members five more IEEE members are interested in this program. If you are interested please contact Bill Lohner on 385-7268. I will inform you of additional activities we are looking at in the next Newsletter.

Bill Lohner
PACE Chairman
(513) 385-7268

NEW MEMBERS

The following individuals are new IEEE members who are in our Section:

BERNHART A. GEBS
MARK E. GRANNEN
XUERONG LI

DRAGAN D. NEBRIGIC
VIKAS UPENDRA SHAH
JIANYU ZHANG

The following individuals are existing IEEE members who have moved into the Cincinnati Section:

DHARMA P. AGRAWAL
DAVID R. BOWDEN
KEVIN C. CHUA
STEPHEN T. CRUM

DOUGLAS E. FRUSHOUR
IAN C. LONG
FRANK W. MOORE

LORI J. PETERSEON
JIMMY RAMLER
CHRIS R. REINHOLD

We wish to extend our welcome to all of our Section's new members!!!

The Personal Computer - Part 8

by Dick Reiman, Historian

During 1977, three distinct paradigms for the personal computer emerged, represented by manufacturers Apple, Commodore Business Machines, and Tandy, each with a different outlook.

At the West Coast Computer Faire in April 1977, the Apple 11 and the Commodore Pet were introduced, and both became instant hits. The Pet was self contained with a keyboard with tiny buttons of a calculator keypad, was a closed system with no potential for add-ons such as a printer, but had a screen, cassette tape for program storage and employed BASIC for users to write their own programs, and had a low price which appealed to the educational market. By contrast, the Apple 11 was more expensive at \$1298 excluding the screen, but was a true computer system for adding extras. The computer hobbyist could customize it for novel applications.

The third computer was the Tandy TRS-80 costing \$399, sold through Tandy's subsidiary Radio Shack aimed at electronic hobbyists and buyers of video games. The user could hook up to a TV screen or an audiocassette recorder for program storage.

By 1976, only a handful of personal computer software offered mainly "system" software such as Microsoft's BASIC programming language and Digital Research's CP/M operating system. This software was included with the machine or "bundled" with a royalty paid by the manufacturer. The software was a small business, with Microsoft employing just five and sales of only \$500,000.

With the arrival of the Apple 11, the Pet, and TRS-80, the market for software applications took off. Applications software enabled a computer to perform useful tasks such as games, education and business. Games were the biggest seller, and they played an role in early software development, especially to human/computer interaction or user-friendly characteristics. This was true of business applications also, especially for Fortune-500 companies.

Software was also in demand by schools and colleges for their personal computers in areas of math, science, language, learning and music. Research grants provided increased quality and expanded program scope.

The market for business applications developed in 1978 to 1979 through spreadsheets, word processors, and databases. These existed in mainframe computer already and the need for these in the personal computer was not obvious.

The VisiCalc spreadsheet was the first to gain wide acceptance. It was developed by Daniel Bricklin, 26 year old Harvard MBA student, and program friend Bob Frankson, who developed the program in their spare time as an application to the Apple 11.

Changes to the financial model were displayed instantaneously, rather than in a few minutes on a mainframe, and the fast response offered greater flexibility and presented the psychological freedom of one's own computer and the desk, instead of the take-it-or-leave-it service of time sharing. For \$3000, the Apple 11 and VisiCalc would be purchased out of departmental budgets.

Suddenly, it became obvious to businessmen that they had to have a personal computer and spreadsheet.

IEEE NEWS

IEEE-USA ISSUES URGENT ACTION ALERT ON H-1B VISA BILL

WASHINGTON, Sept. 4, 1998 -- IEEE-USA today issued an action alert urging members and other technical professionals to tell Congress not to expand the H-1B visa program without providing effective worker safeguards. The alert is posted on a sophisticated new Web site -- at URL <<http://congress.nw.dc.us/ieee/>> -- that allows users to compose a letter, identify their Congressional representatives by zip code, and send them the letter electronically or via postal mail.

IEEE-USA has opposed the version of H.R. 3736 that was agreed upon by House leaders on July 24. The legislation would raise H1-B visa limits by 190,000 over the next five years, while limiting application of recruitment and no-layoff provisions only to employers whose H1-B employees constitute at least 15 percent of their workforce.

"The increase is too large and too long and the worker safeguards too lax to prevent harms to our high-tech workforce and the long-term vitality of the U.S. technical infrastructure," according to IEEE-USA President John R. Reinert. "In the last few months, more than 220,000 jobs have been cut by technology companies and the unemployment rate for electrical engineers has nearly tripled. If there ever was a bad time for Congress to bring in a half-million indentured, high-tech guestworkers, this is it."

The House of Representatives is expected to vote on the legislation during the week of Sept. 14-18. During the current recess, say Congressional sources, advocates of H.R. 3736 have mounted a furious lobbying campaign to sway sufficient votes for the bill to pass and even override a threatened presidential veto.

According to an aide to a Congressman opposing the bill, the outcome is very much in doubt: "Most Congressmen don't even know what an H-1B visa is. Some think it is a military issue and others think it is a health issue or a vaccine." She added: "We have a ton of work to do. We are eight months behind [proponents] in our lobbying effort and cannot afford to waste any more time. We are desperate for phone calls to members, letters, and visits."

HARRIS POLL SHOWS ENGINEERING REMAINS U.S. "STEALTH PROFESSION"

WASHINGTON, September 4, 1998 – Amid concerns that not enough of America's brightest students are pursuing technical careers, a new Harris Poll survey shows that the U.S. public feels uninformed about the engineering enterprise and betrays a startling lack of knowledge about engineers' involvement in key areas of American endeavor.

The telephone survey was conducted by Louis Harris and Associates in late July and was commissioned by the American Association of Engineering Societies (AAES), with additional funding provided by The Institute of Electrical and Electronics Engineers - USA (IEEE-USA) and other societies. An objective of the study is to determine the impact of public awareness of engineering upon the size and quality of the U.S. engineering workforce, particularly given the changing demographics of the overall domestic workforce.

Although the survey of "American Perspectives on Engineers and Engineering" found that Americans believe that engineers are to be credited with creating economic growth and preserving national security, the general public is less clear on how and why that is so. The survey revealed that 45 percent of Americans believe that they are "not very well informed about engineering and engineers" while another 16 percent stated that they are "not at all well informed about engineering and engineers." Among women, however, the percentages increased to 55 percent and 23 percent, respectively. Even a majority of college graduates (53 percent) reported that they are "not very well informed or not at all well informed" about engineering and engineers.

The responses to other questions demonstrated that the respondents were not guilty of false modesty. On one question that asked which professionals – scientists, technicians, or engineers – respondents "mostly associated" with various technical activities, engineers were frequently underestimated in their roles. In areas where there exists a strong or dominant engineering element such as "working in space," "developing new forms of energy" and "creating new materials," scientists were cited more than engineers.

"The poll manifests both a subjective and objective American ignorance about the work of engineers," said IEEE-USA President John R. Reinert. "Observers have often pointed to engineers' allegedly 'nerdy' image as a turn-off to students considering engineering careers. However, these results may have identified the stealth character of our profession as the real challenge in attracting the nation's best and brightest young people -- including women and minorities -- to technical fields."

A more encouraging result for engineers is that ignorance apparently doesn't translate into bad feelings toward the profession. Many parents suggested they would encourage their children to pursue careers in engineering.

When asked the question, "Using a scale of 1 to 10 with 1 being extremely displeased to 10 being extremely pleased, if your son or daughter or other family member said they wanted to be an engineer, how pleased would you be?" the mean response was 9.

Furthermore, an earlier Harris Poll conducted in June revealed that engineers hold relatively high prestige compared to other professions -- although they fall considerably below scientists, teachers and physicians. And a Gallup poll last November found that engineers ranked seventh among surveyed professions in honesty and ethics.

Americans may be laying the blame for their own lack of engineering awareness at the feet of the news media. When asked to rate the quality of media coverage of science, technology, engineering, and medical discoveries, more than 69 percent of the survey respondents assigned "fair" or "poor" grades to engineering reporting while less than 3 percent gave the media an "excellent" score. Among college graduates and those with incomes of \$75,000 or more, 85 percent and 80 percent of the respondents respectively assigned scores of "fair" and "poor" to the media's job in covering engineering.

"Other professionals -- such as doctors, lawyers and teachers -- can inform the public more easily because they work directly with the public," said Reinert. "We speak mostly through our products, and even those are increasingly difficult to understand. So it's imperative that we do a better job of communicating directly to the public through the media and our professional societies in order to bridge the awareness gap. The health of the engineering workforce and, ultimately, the American quality of life may be at stake."

In addition to IEEE-USA, survey cosponsors included The American Institute of Mining, Metallurgical, and petroleum Engineers (AIME), the American Society of Civil Engineers (ASCE), the American Society of Mechanical Engineers (ASME), SPIE – the International Society for Optical Engineering, and the United Engineering Foundation.

ASME International Capitol Update

WOMEN AND MINORITIES IN SCIENCE AND ENGINEERING BILL MOVES FORWARD

The House September 14 passed by voice vote HR 3007 that would establish a commission to study ways in which more women and minorities could be attracted to the fields of science, technology and engineering. Senator Olympia J. Snowe (R-ME) will be introducing a companion bill in the Senate. Under HR 3007, the commission would be charged with identifying specific occupations in which women and minorities are underrepresented and describing employers' practices and policies related to recruiting, advancing, and retaining women and minorities in those fields. ASME President Winfred Phillips September 14 urged support for HR 3007 in a letter to the U.S. House of Representatives, noting that "while women represent nearly 50% of all U.S. workers, they comprise roughly 22% of the entire science and engineering workforce...by addressing this problem now, we can help to ensure that our workforce is prepared to meet the challenges of the information age and that our high-tech companies continue to flourish in the 21st century."

For more:

* Full-text of letter to U.S. House of Representatives:

<http://www.asme.org/gric/98-19.html>

* ASME Board on Minorities and Women:

<http://www.asme.org/bmw>

WEBSITE CELEBRATES WOMEN IN ENGINEERING; SEEKS NOMINATIONS

The National Academy of Engineering recently launched a new website as part of a major effort to encourage young girls and women to choose engineering as a profession. The website highlights the achievements of women engineers and provides information on education, careers, and mentoring. In addition, each week, two outstanding women engineers will be chosen and their achievements will be featured on the website's Gallery of Engineers. Nominations can be submitted from the website.

ASME/USIP ACCESSING TECHNOLOGY SYMPOSIUM HIGHLIGHTS PARTNERSHIPS

In an effort to spur innovative technology partnerships in New Mexico, ASME and the United States Innovation Partnership (USIP) hosted a symposium September 11 in Albuquerque bringing together engineers and representatives from local industry, state government, federal labs, and academia. Over 100 people attended the "Accessing Technology" meeting, which included three panels of speakers that addressed opportunities and challenges to technology-based economic development in New Mexico. Input on how the USIP could assist New Mexico was solicited directly from attendees, and responses included: by helping small and medium-sized

Lead a Company...

...in its pursuit of well engineered products to serve Customers around the world. We manufacture what many call the "cash registers" of the natural gas industry – precision electronic and mechanical instruments and related software – which measure, record and communicate vital billing and operating information. In our narrow niche, we are recognized as the **best in the world**.

We are a small private company with a 50 year record of excellence in the fanatical pursuit of happy Customers. We are known for excellence in engineering, sales and service because we operate with a sincere recognition that the **Customer is King**. We emphasize **quality of life** for our Team Members and offer an **action-oriented** workplace with a notable absence of committees, memos and meetings.

From a home base in Cincinnati, Ohio, a **Vice President of Engineering** will lead a team of experienced electrical, mechanical, and software engineers who are responsible for **all product development**. This person will counsel the President and CEO on the **strategic direction** of the company, and will direct quality assurance.

Relevant experience includes demonstrated **success as a leader** in a technical environment. Technical expertise might include designing **ultra-low power analog and digital circuits for extreme temperature operation**, development of embedded systems and software, and use of varied **communications** technologies. If you are a visionary **Electrical Engineer** with proven leadership skills and are passionate about the use of technology to meet Customer needs, please send your resume to Gary Hudson via email at gyhudson@one.net, or via fax at (513) 272-0211.

industry with business, technology and financial assistance; by enhancing communication and awareness of the USIP; and by providing tools for communities to engage in technology-based economic development. Speakers and attendees also identified various challenges to New Mexico in attracting high-tech firms and becoming more competitive including: education and workforce development; infrastructure; state policies and legislation; entrepreneurial networks; and technology access.

For more:

* ASME/USIP Accessing Technology in New Mexico:

<http://www.asme.org/gric/nmevent.html>

ENERGY COMMITTEE OF ASME COUNCIL ON ENGINEERING COMMENTS ON PCAST REPORT

The Energy Committee of the ASME Council on Engineering recently provided comments based on its review of the report "Federal Energy Research and Development for the Challenges of the Twenty-First Century," prepared by the President's Council of Advisors on Science and Technology (PCAST). The Energy Committee highlighted several recommendations in the PCAST report, suggested additional analysis be done on certain topics, and commented on four areas of the report, namely: energy efficiency; fossil energy; nuclear energy; and renewable energy. The Energy Committee's comments were sent to the Secretary of Energy, Director of the Office of Science and Technology Policy, and members of relevant House and Senate committees.

For more:

* Full-text of Energy Committee of ASME Council on
Engineering comments:

<http://www.asme.org/gric/98-18.html>

NIST/ANSI SUMMIT TO FOCUS ON FUNDING OF STANDARDS DEVELOPMENT

The National Institute of Standards and Technology (NIST) and the American National Standards Institute (ANSI) will host a "standards summit" September 23 at the International Trade Center in Washington, DC. One of the issues the summit will focus on is funding for standards development. In April testimony before the House

Subcommittee on Commerce, State, and Judiciary, the NIST Task Force of the ASME Council on Codes and Standards provided comments on FY 99 NIST appropriations and standards activities. The NIST Task Force supported major increases in U.S. government funding of standards activities, particularly in the International Standards Organization (ISO) and the International Electrotechnical Commission (IEC). The Task Force said "the U.S. government (through NIST) needs to allocate funding for U.S. entry into ISO and IEC to ensure U.S. interests are represented in determining policy and strategic direction on the international level."

For more:

* NIST/ANSI Summit:

<http://ts.nist.gov/htdocs/210/summit.htm>

* Full-text of NIST Task Force of ASME Council on Codes

and Standards statement:

<http://www.asme.org/gric/98-12.html>

IEEE-USA/HARRIS POLL: U.S. PUBLIC OVERWHELMINGLY OPPOSED TO H-1B VISA EXPANSION

WASHINGTON, September 16, 1998 -- More than four out of five Americans oppose substantially increasing H-1B visa limits, according to a survey released today by The Institute of Electrical and Electronics Engineers - USA (IEEE-USA) and conducted by Louis Harris & Associates Inc. The U.S. House of Representatives will vote tomorrow on H.R. 3736, a bill that would raise by 190,000 the number of temporary foreign high-tech guest-workers allowed into the United States over the next four years.

According to the IEEE-USA/Harris Poll, 82 percent of a national cross-section of 1,000 adults opposed Congress "allowing U.S. companies to sponsor 190,000 additional foreign technical workers, as temporary employees for up to six years." Only 16 percent were in favor, while 2 percent were unsure.

Respondents, asked their level of agreement with several assertions made by proponents and opponents of H-1B expansion, overwhelmingly agreed with concerns expressed by H.R. 3736 opponents -- including IEEE-USA -- about the effects of substantially increasing visa levels. The statement, "lower wages paid to temporary foreign workers harm U.S. professional wages," was strongly or mostly agreed to by 75 percent of those polled, while only 23 percent disagreed. In addition, 77 percent versus 22 percent agreed that "allowing companies to hire additional temporary foreign professionals reduces employment opportunities for U.S. technical workers." And a whopping 86 percent -- with just 13 percent in disagreement -- concurred that "U.S. companies should train U.S. workers to perform jobs in some technical fields, even if it is faster and less expensive to fill the jobs with the foreign professionals."

Respondents were not swayed by most of the proponents' assertions. A majority -- 66 percent versus 31 percent -- disagreed that "without adding additional temporary foreign workers the United States might be forced to transfer work overseas." Furthermore, 61 percent disagreed with the statement that "without adding additional temporary foreign workers U.S. companies might fall behind international competitors," while only 36 percent agreed. Only one argument -- that "there is a shortage of technical professionals in the United States" -- achieved a plurality of agreement, with 51 percent of respondents saying they "strongly agree" or "mostly agree" and 41 percent indicating they strongly or mostly disagree.

The poll also revealed a broad public lack of awareness of H-1B legislation. Only 14 percent were "very familiar" or "somewhat familiar" with the pending bill, while 86 percent were "not very familiar" or "not at all familiar."

According to IEEE-USA President John R. Reinert, "Special-interest groups have been trying to push this bill through using legions of lobbyists and big campaign contributions. But now it's clear that the American public is adamantly against a vast expansion of the high-tech guest-worker program. Members of Congress might want to keep this in mind as voters prepare to head to the polls in several short weeks."

USE ETHICS PROACTIVELY, EXPERT SAYS

Engineering can be a risky business - but we risk more if we don't work in the most ethical way possible, one professional says. "It is incumbent for all of us as professionals, with or without a license, to practice our profession with the utmost of integrity, ethics and professionalism." So says Roger M. Boisjoly, P.E., in the latest newsletter of the Alliance of IEEE Consultants' Networks at http://www.ieeeusa.org/usab/BUSINESS/info_ieeeusa.consultant.newsletter.txt. Boisjoly, the former Morton Thiokol engineer who put his career on the line to point out safety problems with the Space Shuttle's booster rockets, shares his experience of 27 years to explain the importance of ethics for all engineers. He emphasizes the need to stop looking at the codes in the usual "after the fact" way, "almost solely used to place blame on subordinate individuals after an event has occurred," and to focus instead on "a fresh approach to use the codes proactively, before the event is allowed to happen."

IEEE-USA MAKES LAST STAND ON H-1B BILL

IEEE-USA has issued a legislative alert opposing legislation to increase the number of temporary high-tech guestworkers admitted under the H-1B visa program. IEEE-USA opposed increasing the limits without corresponding safeguards to discourage layoffs in the U.S. workforce and encourage full use of qualified U.S. high-tech workers.

"The increase is too large and too long and the worker safeguards too lax to prevent harms to our high-tech workforce and the long-term vitality of the U.S. technical infrastructure," said IEEE-USA President John R. Reinert. "In the last few months, more than 150,000 jobs have been cut by technology companies and the unemployment rate for electrical engineers has nearly tripled. If there ever was a bad time for Congress to bring in a half-million indentured, high-tech guestworkers, this is it," he said. Accompanying the alert was the debut of the IEEE-USA's new Legislative Action Center on the World Wide Web, which enables users to correspond directly to their representatives in Congress (see <http://congress.nw.dc.us/ieee>). To learn more about H-1B visa legislation and IEEE-USA's position, see <http://www.ieeeusa.org/usab/FORUM>. The H-1B issue has elicited numerous responses from IEEE members. Please see letters in the May 20th, June 11th, June 22nd, July 8th, July 20th, and August 17th issues of IEEE-USA This Week at <http://www.ieeeusathisweek.org> (click on the "Previous Issues" button on the left-hand column of the masthead).

TODAY'S ENGINEER MAGAZINE UNCOVERS PSYCHOLOGICAL BARRIERS TO TELEWORKING

Despite documented work productivity increases and increased job-life satisfaction of telecommuters, many employers are still hesitant to give work-at-home programs the green light, according to a feature article in the just-released issue of Today's Engineer magazine.

Companies must overcome hidden psychological and cultural barriers before teleworking becomes a success at a larger number of organizations, author Trudy E. Bell says. According to Bell, "The commitment that makes for success requires cultural and psychological full disclosure." She describes how a number of companies with telecommuting programs address concerns such as worker isolation, educating management and workers on the benefits of telecommuting for everyone, and performance concerns.

Other features in the current issue of Today's Engineer include "Looking for Opportunities to Lead ... and More;" "Getting the Audience on Your Side: The Art of Speaking Effectively;" "Become a Creative Breakthrough Thinker: Increase Your Value to Your Organization ;" and a list of the "Top 10 Sink or Swim Career Safety Tips."

Today's Engineer is the only magazine dedicated to the professional development of engineers in all technical disciplines. Each quarterly issue includes articles, columns and editorial departments about successful engineering attributes such as an understanding of engineering science fundamentals and the context in which engineering is practiced; an ability to think critically, creatively, independently and cooperatively; strong interpersonal and communications skills; and high ethical standards.

The magazine recently received a 1998 Communicator Award of Distinction as a magazine which "exceeds a high standard of excellence and (which) serves as a benchmark for the industry." It also received a Publication of

Excellence Award in Communications Concept's APEX '98 Award for excellence in graphic design, editorial content, and the success of the entry in achieving overall communications effectiveness and excellence in the category of New Magazines, Magapapers (newspaper/magazine hybrids), Newspapers, & Journals. Today's Engineer was one of ten publications honored in this category from a total of 765 entries.

For more information on Today's Engineer, call 202-785-0017, ext. 313, send e-mail or visit the magazine's web site at <http://www.todaysengineer.org>. To subscribe, call 1-800-678-4333 and ask for product no. PB-331. Annual subscriptions are \$12.95 for individuals, and \$6.95 each for group subscriptions of 100 or more.

CONSULTANTS TO SHARE KNOW-HOW AT NATIONAL IEEE-USA WORKSHOP THIS FALL

Engineering professionals looking to get into consulting - and consultants who want to pass on valuable tips - will be able to network at an upcoming national workshop. The IEEE Chicago/Rockford Consultants' Network will host the 10th IEEE-USA National Consulting Workshop on Oct. 17 in Schaumburg, Ill.

At the workshop for practicing or aspiring consultants in the electrotechnology and information-technology fields, expert consultants will explain their secrets and give practical how-to information on such topics as:

- * getting started;
- * employed full-time, consulting part-time;
- * finding clients;
- * financial aspects, fee setting, taxes;
- * 30 years consulting experience: a perspective;
- * the changing consulting arena and the Internet;
- * intellectual property; and
- * networking and referrals.

Registration for the full-day workshop at the Chicago Marriott-Schaumburg is \$65 for IEEE members and \$75 for non members, minus a discount of \$10 for early registrations received by Oct. 9. Registration includes continental breakfast, refreshments at breaks, lunch, and copies of the speakers' handout materials. A special room rate of \$88 for the night before or after is available by calling the hotel reservation line at 847-240-0100 by Sept. 17.

For more information on IEEE-USA consultants' workshops, see <http://www.ieeeusa.org/usab/BUSINESS/workshop.aicn.html>. To register, send a check (payable to IEEE) or credit card information, along with member number if applicable, to

Dr. Gary L. Blank
847-464-4081 (fax)
PO Box 70155

WANTED: YOUNG ENGINEERS WITH AN EYE ON THE FUTURE

Every year since 1993, seventh- and eighth-grade students in various regions of the country have designed their own versions of what they think the city of tomorrow will look like. This year, however, virtually every middle school student in America will have a chance to participate.

The non-profit National Engineers Week Future City Competition (TM) asks seventh- and eighth-grade students nationwide to design and build a city of the future. With its emphasis on so many areas of interest -- science, mathematics, computer games, politics, and art -- it holds something for almost every student.

Up until now, though, not every student could enter the contest, since the competition was only available to schools in certain regions across the country. Now that's all changed. Starting in the 1998-99 school year, the Future City Competition materials are available to students at schools from Anchorage, Alaska to Apopka, Florida, thanks to a new program the National Engineers Week Committee has begun with a grant from the Engineering Foundation.

The contest itself is fairly simple. Students, working in teams of three with their teacher and a volunteer engineer mentor, design a future city on computers using SimCity 2000 software from Maxis. Then they create three-dimensional models of their cities based on the computer simulation. Construction for models must cost less than \$100; the contest also encourages the use of recycled materials. The students also write a 500-word essay on a specific engineering-related topic.

The volunteer engineer mentor advises the students as they turn their cities from theory to reality. The competition teaches children many important aspects of engineering, math and science, not to mention real-world life, such as practical problem-solving without preconceived formulas or standards, dealing with conflicting needs, cooperating through team-based learning, and working within budgets.

The Future City Competition for 1999 has grown to 18 metropolitan areas, including six new regions (Atlanta, Denver, Houston, Columbus (Ohio), Washington State and West Central Massachusetts) joining the 12 regions which held competitions in 1998 -- Buffalo, Chicago, Detroit, Los Angeles, Louisiana, Milwaukee, New York, Omaha, Philadelphia, Phoenix, St. Louis, and Washington, DC

Students begin work on their future cities in October, and compete in regional finals in January. Regional winners participate in national finals in Washington, DC, during National Engineers Week, Feb. 21-27, 1999.

This year, students at schools outside of the 18 officially sanctioned regions can join the Future City Competition by holding competitions in their schools as part of their science and math curriculums. While schools in these expanded regions will not be able to compete at regional or national levels, they can participate in a competition on the Future City Web site at <http://www.futurecity.org>. Teams in the expanded contest will submit their entries via the Internet through a contest-sponsored template, and a panel of engineer judges will evaluate submissions. More details on the Website competition will be available later this year.

Participants in the expanded Future City Competition will also have access to a satellite teleconference training session scheduled for Oct. 24, 1998, linking participants in regional competitions nationwide with engineers and students at the teleconference's home site in Omaha, Nebraska, and with SimCity software designers. Although live interaction with the teleconference is not possible without a satellite downlink site, a videotape of the broadcast can be provided to a school's local public access television station for rebroadcast, or directly to the school.

Information about the Future City Competition is available by ordering a Future City Competition materials kit, which includes a teacher/volunteer handbook with a teacher's guide, judging manual, and a seven-minute overview video. It's available from National Engineers Week for \$15 by telephoning (412) 741-1393 or visiting <http://www.futurecity.org>. (The SimCity 2000 software is not included in the kit, but is available at retail outlets nationwide.)

IEEE-USA is one of 16 engineering societies sponsoring National Engineers Week 1998.

Cincinnati Section Voice Mail (call for
meeting reservations) 629-9380

Randy Holt - Chairman	572-5710 (Office), holthr@nku.edu (E-mail)
Bob Haas - Vice Chairman	231-2584, rwhaas.engr@worldnet.att.net (E-mail)
Orest Melnyk - Treasurer	397-5419, o.melnyk@ieee.org (E-mail)
Chris Anderson - Secretary	891-6402, canderso@uceng.uc.edu (E-mail)
Ron Harbaugh - Member-At-Large	352-6202, Ron.Harbaugh@CinPD.RCC.ORG (E-mail)
Laurie Tappel - Member-At-Large	397-6383, ltappel@cinbell.com (E-mail)
Jack Beckmeyer - Arrangements Chairman	248-0901, 248-0226 (Fax), rfschapp@cinti.net (E-mail)
Bill Lohner - PACE Chairman	385-7268, Ron.Harbaugh@cinphone.rcc.org (E-mail)
Bob Morrison - Editor	287-3697 (Office), 287-4155 (Fax) j.r.morrison@ieee.org (E-mail)

OCTOBER 1998

IEEE CINCINNATI SECTION NEWSLETTER



**The Institute of Electrical and
Electronics Engineers, Inc.
C/O Dee Scott
PO Box 53308
Cincinnati, Ohio 45253**

DATED MATERIAL
Please deliver promptly
If undeliverable, please discard